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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/726,907

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Allen Tsz-Chiu Wong

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EXAMINER

SALCE, JASON P

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/726,907	Applicant(s) WONG ET AL.	
	Examiner Jason P. Salce	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/29/2007 have been fully considered but they are not persuasive.

In regards to independent claims 1 and 11, Applicant argues that column 306 in Figure 4 of Brooks cannot be the second register required by claim because column 306 does not store a value that represents the current number of different channels that are sent to the interface/modulator bank. Applicant further notes that a single value of three (for the three channels being sent to the interface/modulator bank 106) cannot be found in column 306. The examiner notes that the broadest reasonable interpretation of the claim limitation "number" has been applied.

Merriam-Webster's dictionary defines the noun "number" as, "**a word, symbol, letter, or combination of symbols representing a number**" and "**a numeral or combination of numerals or other symbols used to identify or designate**".

Therefore, Column 304 in Figure 4 of Brooks teaches a maximum number of channels from 1 to K (**combination of numerals**) and a current number of channels in Column 306 of Figure 4 when an entry in Column 306 is non-zero. Note that Column 306 has three entries that are non-zero, therefore a determination is made that a current number of three different channels are being sent to the interface and stored in register 306. Further note that if a user requests to view channel 1, the entry in Column 306 corresponding to channel 1 would be incremented to 1 and then the current number of channels being sent to the interface would be 4.

As discussed above, the combination of numerals in Column 306 (second register) are used to determine the current number of channels. The examiner recommends that Applicant apply clarifying language to the claim stating that single values are being stored, which represent a maximum and current number of channels received by an interface (router).

Therefore, claims 1 and 11 stand rejected in view of Brooks (see rejection below).

After further review of the Brooks, at Paragraph 0034 in the further event that the carriers (channels) in the CATV system 10 are oversubscribed, i.e., no available carrier can be assigned by controller 112 to carry new program material requested by the set-top terminal in the neighborhood, "blocking" may be implemented such that the requesting set-top terminal is temporarily denied access to the new program material. Therefore, if a user sends a new channel message to an interface, a processor/state machine must inherently determine if the current number of channels currently subscribed to are greater than or equal to the maximum number of channels available on the CATV system. Therefore, claims 2-3, 6-7, 9-10, 12-13, 17-18 are further rejected in view of Brooks.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-7, 9-13, 15 and 17-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Brooks (U.S. Patent No. 2003/0056217).

Referring to claim 1, Brooks discloses a first and second register and a state machine connected to the first and second registers (**see Figure 4 for a first register in the form of table 'X' 304 and a second register in the form of table N_{PCHX} 306 and further note Figure 3 for controller 112 containing state machine/processor 204**).

Brooks also discloses determining a maximum number of channels that can be received by an interface connected to the system, and store the maximum number in the first register (**see Paragraph 0025 for column 304 in memory 206 enumerating each program channel X selectable by a subscriber through a set-top terminal, which ranges from 1 to K, therefore a maximum number of channels that can be received is determined and stored in a first register**).

Brooks also discloses determining a current number of different channels that are being sent to the interface, and store the current number in the second register (**see Paragraph 0028 for step 508 determining the current number of channels that are being sent to the interface (modulator bank) by incrementing the second register/table 306 in assignment table 300 and if the register/table 306 value for**

channel 1 is zero, then the channel is not currently being sent to the interface (modulator bank), therefore when a channel is requested, controller 112 increments channel 1's register/table 306 value to 1 and requests that the channel be sent to the proper modulator bank on a specified carrier). The examiner notes that this clearly teaches that a current number of transmitted channels is determined and stored in a second register.

As rebutted above by the examiner, Merriam-Webster's dictionary defines the noun "number" as, "a word, symbol, letter, or combination of symbols representing a number" and "a numeral or combination of numerals or other symbols used to identify or designate". Therefore, Column 304 in Figure 4 of Brooks teaches a maximum number of channels from 1 to K (combination of numerals) and a current number of channels in Column 306 of Figure 4 when an entry in Column 306 is non-zero. Note that Column 306 has three entries that are non-zero, therefore a determination is made that a current number of three different channels are being sent to the interface and stored in register 306. Further note that if a user requests to view channel 1, the entry in Column 306 corresponding to channel 1 would be incremented to 1 and then the current number of channels being sent to the interface would be 4. The combination of numerals in Column 306 (second register) are used to determine the current number of channels. The examiner recommends that Applicant apply clarifying language to the claim stating that single values are being stored, which represent a maximum and current number of channels received by an interface (router).

Brooks also discloses detecting a new channel message from a set top box connected to the interface, the new channel message indicating a new subscribed-to channel (**see Paragraph 0026**).

Referring to claim 2, see the rejection of claim 1 and further note that Brooks teaches that when the new channel message is detected, the state machine to determine if the maximum number is equal to the current number (**see Paragraph 0034 in the further event that the carriers (channels) in the CATV system 10 are oversubscribed, i.e., no available carrier can be assigned by controller 112 to carry new program material requested by the set-top terminal in the neighborhood, "blocking" may be implemented such that the requesting set-top terminal is temporarily denied access to the new program material. Therefore, if a user sends a new channel message to an interface, a processor/state machine must inherently determine if the current number of channels currently subscribed to are greater than or equal to the maximum number of channels available on the CATV system**).

Referring to claim 3, Brooks discloses that the state machine further determines whether the set top box is currently receiving a previously subscribed-to channel (**see again Paragraph 0026**).

Referring to claim 6, Brooks discloses that the set top box is a member of a group (**see Figure 1 for set top terminals 128-1 through 128-L being service by a single service area node 126 and therefore every set top terminal under service area node 126 is a group**).

Referring to claim 7, Brooks discloses that when the maximum number is not equal to the current number (**channels are not oversubscribed, as described in Paragraph 0034**), the state machine output a group specific query to the group (**see Paragraph 0028 for multicasting control messages to a group of set-top terminals**).

Referring to claim 9, see the rejection of claim 7 and further note Paragraph 0035 for also allowing a user to subscribe to a new channel after a timer has expired.

Referring to claim 10, Brooks discloses that when the maximum number is equal to the current number, and the set top box is not currently receiving a subscribed-to channel, the state machine drops the new channel message (see again Paragraph 0034).

Referring to claims 11-13, see the rejection of claims 1-3, respectively.

Referring to claim 15, see the rejection of claims 6-7.

Referring to claims 17-18, see the rejection of claims 9-10, respectively.

Referring to claims 19-20, Brooks discloses that the maximum number of channels represents a maximum number of channels that can be simultaneously received by the interface (see Paragraph 0021-0022 for each interface receiving p channels simultaneously, which is a maximum number channels that the viewer can choose from). Further note Paragraph 0028 for the headend routing a channel to the service node 126 only if the requested channel has not been assigned to a carrier frequency distributed by service node 126.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al. (U.S. Patent Application Publication 2003/0056217) in view of Sparrell et al. (U.S. Patent Application Publication 2004/0268406).

Referring to claim 14, Brooks discloses all of the limitations in claim 13, but fails to teach that when the maximum number is equal to the current number, and the set top box is currently receiving the previously subscribed-to channel, stopping a transmission of the previously subscribed-to channel, and outputting the new subscribed-to channel after the previously subscribed-to channel has been stopped.

Sparrell discloses a system for transmitting various channels to multiple set-top box units (**see Figure 1**). Sparrell further discloses that when all of the available network resource channels are being used (**the maximum number of channels available in the system is equal to the current number of channels being used**) that a user (**Dad**) can request stopping a transmission of the previously subscribed-to channel (**by Mom**) and outputting the new subscribed-to channel (**requested by Dad**) after the previously subscribed-to channel has been stopped (**see Paragraph 0077**).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the system of Brooks, to include the pre-emption functionality, as taught by Sparrell, for the purpose of providing a system that identifies, assigns and reserves available network resources in a manner which most efficiently uses the resources of the a distributed network (**see Paragraph 0026 of Sparrell**).

Referring to claims 4-5, see the rejection of claim 14.

Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al. (U.S. Patent Application Publication 2003/0056217).

Referring to claim 8, Brooks discloses all of the limitations of claim 7, and further teaches that the state machine outputs the new subscribed-to channel to the set top box after the group specific query has been output (**see the rejection of claim 7**). Brooks fails to teach that this is done before a group specific query timer has expired.

The examiner takes Official Notice to the fact that the IGMP (Internet Group Management Protocol) specifically provides provisions for sending a group message query to a plurality of client devices. When a client device receives a group message query a timer has been started by the device sending the group message query and if the client device sending a report back to the sending device before the timer has expired, the data stream is transmitted to the client device that sent the report.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the video system, as taught by Brooks, using the IGMP protocol, as taught by the examiner's Official Notice, for the purpose of providing client devices the capability of receiving IP multicasts.

Referring to claim 16, see the rejection of claim 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason P. Salce whose telephone number is (571) 272-7301. The examiner can normally be reached on M-F 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Jason P Salce
Primary Examiner
Art Unit 2623

February 16, 2008

JASON SALCE
PRIMARY PATENT EXAMINER
